



# EROSION CONTROL for HOME BUILDERS & THEIR CONTRACTORS

## FACT SHEET NO. 3



**HOUSE THAT HAS BEEN  
BURIED IN SEDIMENT**  
**Figure 1**

### EROSION IS A COSTLY PROBLEM

Eroding construction sites are a significant cause of water pollution in some locations in Kansas. For every acre under construction it is estimated that an average of 3 to 6 dump truck loads of soil are washed into nearby lakes and streams. Problems caused by this sediment include:

**Expensive dredging** - The expense of dredging sediment from ponds, lakes, streams, and rivers is a heavy burden on home owners associations, taxpayers, and developers.

**Lower property values** - Property values are reduced when lakes and streams fill with sediment. Property is damaged by flooding caused by clogged storm drains and streams. Shallow water increases stagnation and weed growth.

**Poor fishing and swimming** - Muddy water drives fish away. As silt settles it smothers fish nest sites and kills eggs. Muddy water is less pleasing for swimming than clear water.

**Nuisance growth of weeds and algae** - Sediment carries fertilizers which fuels the growth of algae and weeds.

**Increased local taxes** - Cleaning up sediment in streets, sewers and ditches, and buying out areas now subject to flooding because of increased runoff adds extra costs to local government budgets.

### PREVENTING EROSION IS EASY

Many water quality professionals assert that the construction of single family homes and small commercial developments contributes significantly to erosion problems. The construction of each home or small project adds a share of the silt load to Kansas rivers and lakes. Any individual project may be looked upon as insignificant, however these projects often take place in one drainage subarea

thereby destroying the natural hydrology of the drainage area. Ironically the features of the drainage area may be what attracted the persons building homes or commercial establishments to the area. If each person building a house or business accepts the responsibility of erosion control for their activities the overall effect will be improved rivers and streams, improved neighbor relationships and preservation of natural features of the area.

Erosion control is important for every home site; even sites less than an acre in size. The materials needed are easy to find and relatively inexpensive. The knowledge needed is not extensive and is really a matter of thinking about controlling the effects of rainfall and runoff.

Materials needed include: straw bales, hay bales, or silt fabric fence; wood or metal stakes; gravel; and any variety of mulch material (e.g. wood chips, straw, etc.). These materials can be obtained locally (probably where you will get your grass seed or sod) - look in the yellow pages under, Contractors Equipment and Supplies, Greenhouses, Garden Centers, Farm Supplies, or Landscape Contractors.

Putting these materials to use is a straightforward process. Only a few controls and common sense are needed at most sites. Some common management practices are:

- ☞ **Silt fence or straw bales** to trap sediment on the downslope side of the lot;
- ☞ **Gravel drive** to be used by all vehicles which must leave the street;
- ☞ **Mulch** to protect bare soil and young grass;
- ☞ **Soil piles** place at locations away from roads and ditches;
- ☞ **Preserve existing trees and vegetation** by fencing off areas of the lot;
- ☞ **Limit "standard" vehicle access** to only streets and roads, keep vehicles off of future yard areas; and
- ☞ **Revegetate** as soon as possible.

### FACT SHEET SNAPSHOT:

This fact sheet includes diagrams and instructions needed by home builders and their contractors for most home sites. Additional erosion controls may be needed for sites which have steep slopes, are adjacent to streams or lakes, are larger than one acre, or receive a lot of runoff from adjacent land or lots.

If you need help, assistance is available from local planning and zoning personnel, the Natural Resource Conservation Service (formerly the SCS), or KDHE.

## WHAT YOU SHOULD DO:

### Preserve Existing Vegetation & Drainage

- ✓ Whenever possible preserve existing trees, shrubs, and grasses; especially in and along side swales or drainage ditches.
- ✓ Prevent root damage by not grading, placing soil stockpiles, or parking vehicles underneath trees.
- ✓ Place orange "construction fence" or snow fence around trees at their dripline and along drainage ditches or swales.
- ✓ Take samples of your topsoil to determine what fertilizer mix will be needed when you start establishing your lawn.
- ✓ Clearing and grading limits should be clearly marked and kept as small as possible.

### Set Up Silt Fences

- ✓ Place on the contour or perpendicular to the slope of the hill so that water and sediment will pond behind the fence. Turn ends uphill to prevent water going around the end.
- ✓ Install on the downslope, downhill, downstream, or low side of your lot.
- ✓ Keep the fence/barrier in place until grass is established.

#### FOR FABRIC FILTER FENCES

- ✓ Top of fence should be no higher than 24 inches high or less than 12 inches high.
- ✓ Bury bottom six inches in a trench on the upslope side.
- ✓ Stakes should be on the downstream side of the filter fabric and spaced approximately 3 feet apart.

#### FOR BALE FENCES

- ✓ The lower 3 inches of the bale should be buried in a shallow trench to make sure water does not seep underneath.
- ✓ Butt the bales tightly together; end to end.
- ✓ Two stakes should be placed in each bale to hold it in place; drive the stakes on a slant toward the previously placed bale.

#### FOR WIND EROSION

- ✓ Install snow or picket fence down wind from soil stockpiles and the overall lot.
- ✓ The downwind location should be in relation to erosive wind directions which may not be the same as prevailing wind directions.
- ✓ Install fence at right angles to the wind direction. Two or more rows of fence spaced 20 to 40 feet apart should be considered.

### At The Time Of Excavation

- ✓ Install a single gravel access drive to be used by all vehicles delivering materials to the site. Use 3 to 6 inch gravel over a geotextile fabric.
- ✓ Stockpile topsoil separate from subsoils/backfill materials.
- ✓ Mulch, temporarily seed, cover, or place sediment fence around all soil stockpiles.
- ✓ Locate soil stockpiles on upstream side of lot and away from drainageways.

### During Building Activity

- ✓ Inspect and repair sediment fence when rain is forecast and

after each rain event. Clean out sediment when sediment depth reaches ½ of fence height.

- ✓ At the end of each day sweep or scrape up soil tracked onto the street.
- ✓ Remove soil clogged gravel access and replace with fresh gravel.
- ✓ Keep workers' vehicles off of lot and on the street.
- ✓ Backfill the over-dig as soon as possible and establish final yard grades where possible.
- ✓ Remove excess excavated material off site as soon as possible to a suitable area where it will not erode.
- ✓ Start your lawn or grass in areas where final grade is completed.
- ✓ Assist your contractor by frequently cleaning the building lot of trash and debris.

### When The Shell Is Finished (After The Exterior Walls And Roof Are Up)

- ✓ Use downspout extenders to carry roof runoff to grassed or paved areas. Keep in place until grass is established.
- ✓ Complete all final grading and start establishing your lawn or grass.
- ✓ Consider using sod in critical areas such as low areas and drainage swales.

### Quickly Establish Grass

- ✓ Prepare a seed bed and seed or use sodding.
- ✓ Follow your seed/sod suppliers recommendations for installation, and maintenance until grass is established, for your specific location. Keep in contact with your supplier regarding when to water and how much to water.
- ✓ Consider using warm season or drought resistant grasses on south and west facing areas.
- ✓ Mulch seeded areas. Use one straw bale per 25 X 25 foot area (10 paces by 10 paces).
- ✓ Anchor your mulch to keep it in place and protect it from the wind. Anchor by wetting mulch on days when wind is forecast to exceed 15 mph, spraying it with a binder such as dilute plaster of paris, etc. At a minimum anchor mulch in critical areas: steep slopes, windy areas - building corners, etc.

**WARNING!** Extra measures may be needed if your house site:

- Is within 200 feet of a stream which has pools of water or a lake.
- Has steep slopes (greater than 10% or 1 foot of fall in 10 feet of run).
- Receives runoff from two or more upstream lots.

If you have any of the above site conditions it is recommended that you consult a erosion control specialist, professional engineer, city/county construction inspector, soil conservation district, or landscape architect.

## CONTACT/HELP NUMBERS

**Kansas Department of Health and Environment**  
(785) 296-5549

### Natural Resource Conservation Service

Look in the phone book under United States Government - Department of Agriculture - Soil Conservation Service or Natural Resource Conservation Service. Or look under the name of your county government and the heading Extension Agents

### Local agencies

Look in the phone book under the name of your town/county/or township government. Look under Planning and Zoning, Building

Inspectors, Code Enforcement, or Public Works.

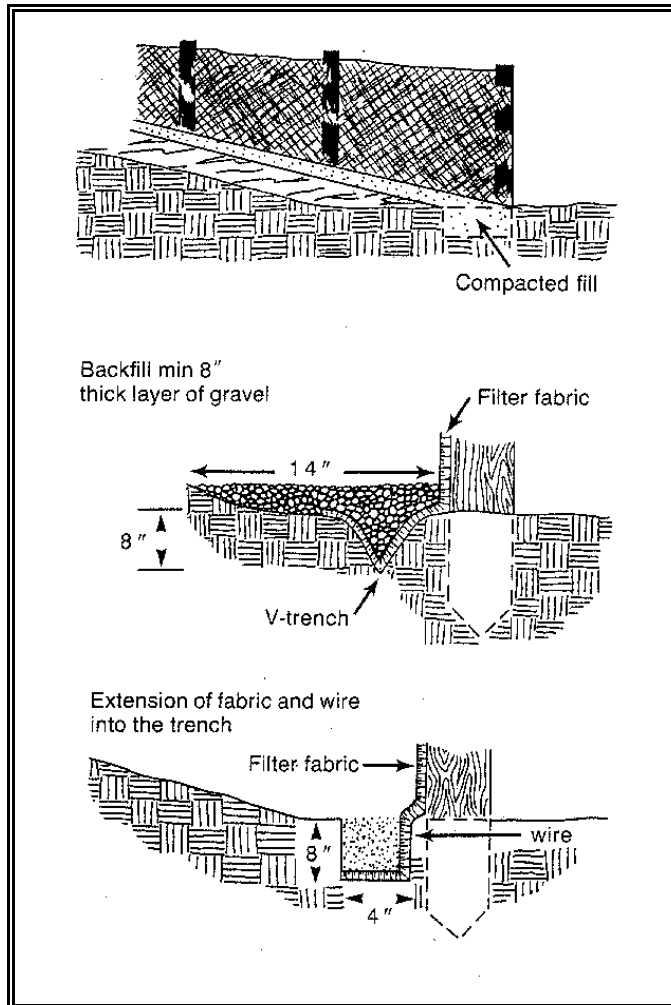
### Professionals

Look in the phone book yellow pages under Landscape Architects, or Engineers or contact the Soil and Water Conservation Society for a list of Certified Professional Erosion and Sediment Control Specialists in your area.

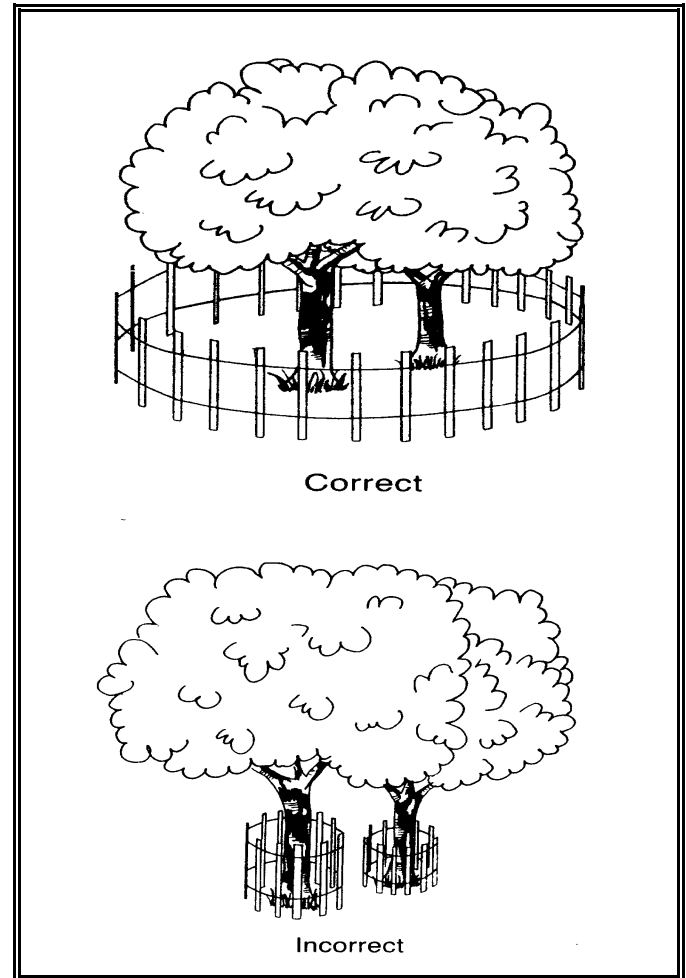
### State Agencies

Kansas Department of Health and Environment  
Stormwater Program - (785) 296-5549  
Non-point Source Program - (785) 296-4195

In all cases ask if there is anyone who can help you develop a plan to control erosion at your home.



SEDIMENT FENCE INSTALLATION DETAILS  
FIGURE 1



TREE PROTECTION - KEEP FENCE AT THE DRIP LINE OF THE TREE LIMBS (I.E. OUT AWAY FROM TREE TRUNK).  
FIGURE 2

Source for Figures: *North Carolina Erosion and Sediment Control Manual*

For more information contact KDHE's Bureau of Water - Industrial Programs Section at (785) 296-5549.

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